



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/511,551

06/10/2005

Thierry Mazoyer

612.44330X00

4640

20457 7590 10/23/2007
ANTONELLI, TERRY, STOUT & KRAUS, LLP
1300 NORTH SEVENTEENTH STREET
SUITE 1800
ARLINGTON, VA 22209-3873

EXAMINER

CHAPMAN JR, JOHN E

ART UNIT

PAPER NUMBER

2856

MAIL DATE

DELIVERY MODE

10/23/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/511,551	MAZOYER ET AL.	
	Examiner	Art Unit	
	John E. Chapman	2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 and 25-27 is/are rejected.
- 7) ☒ Claim(s) 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 October 2007 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A replacement sheet was received on October 5, 2007. This drawing is not acceptable because it contains copy marks. A clean copy is required in response to this Office action.
2. The disclosure is objected to because of the following informalities: An amendment to page 10 of the specification to provide a description of amended Fig. 2 has not been received. Appropriate correction is required.
3. Claim 10 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Since the intermediate sheet comprises electric connection means between the sensitive element and a measuring means (claim 4), the sensitive element is necessarily connected to the electric connection means by at least one conducting element, namely, the intermediate sheet. Appropriate correction is required.
4. Claim 23 objected to because of the following informalities: Claim 23 is incomplete. It appears that --determine-- should be inserted before "engine" in line 2. Appropriate correction is required.
5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Art Unit: 2856

6. Claims 1-23 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gurich et al. (DE 4207495) in view of Schaperkotter (5,380,014) or Novak et al. (5,659,132).

Gurich discloses a device for measuring the pressure of a fluid present in a chamber, the device comprising a sensitive element (10) placed in a housing (annular groove) provided within a seal (12), interposed between two elements (14, 15) forming the chamber (13), wherein the housing is open in the direction of chamber and is surrounded by the seal (12) in all other directions. It is not evident that the sensitive element (10) is coated with a material filling the housing (annular groove). Accordingly, the only apparent difference between the claimed invention and the prior art consists in coating the sensitive element (10) with a material filling the housing (annular groove). Schaperkotter teaches that it is known in the art to fill the interior of a housing (114) which is not filled out by a sensitive element (108) with a suitable insulating material (116). Novak teaches sealing a sensor (301) into a support structure (302) using a high temperature resin (column 4, lines 52-55). Accordingly, it would have been obvious in view of either Schaperkotter or Novak to coat the sensitive element (10) of Gurich with a material filling the housing (annular groove) in order to provide suitable insulation.

Regarding claim 2, Gurich discloses a seal in Fig. 5 comprising two extreme sheets (52, 54) and an intermediate layer (53). Note also Figs. 6 and 7.

Regarding claim 3, it would have been obvious to form the housing (annular groove) by a cut.

Regarding claim 4, Gurich discloses an intermediate sheet (73) in Fig. 7 that comprises an electric connection means. Furthermore, Novak teaches providing an intermediate sheet (405) comprising an electric connection means (406).

Regarding claim 5, Novak teaches using conventional printed circuit board technology for intermediate layer (405) in Fig. 4. See column 5, lines 40-45, of Novak. Accordingly, it would have been obvious in view of Novak to use comprise the intermediate sheet (73) in Fig. 7 of Gurich from a laminated circuit card comprising an electric connection means (406).

Regarding claim 6, it would have been obvious to provide an insulating layer between the sheets (62, 63, 64) in Fig. 6 of Gurich to ensure electrical isolation of the electrodes (65, 66).

Regarding claim 7, two of the opposite vertical faces of the sensitive element (70) in Fig. 7 of Gurich are connected to the electric connection means.

Regarding claim 8, two of the opposite horizontal faces of the sensitive element (60) in Fig. 7 of Gurich are connected to the electric connection means (64). It would have been obvious to provide an intermediate sheet (63) that comprises an electric connection means in view of the intermediate sheet (73) Fig. 7.

Regarding claim 9, it is well known in the art to use a conducting glue to connect a sensitive element to a metallic contact element, as taught by Schaperkötter (column 11, lines 13-31). Accordingly, it would have been obvious to use a conducting glue to connect the sensor (70) in Fig. 7 of Gurich to the electrical connection means (73).

Regarding claim 10, the intermediate sheet a conducting element.

Regarding claims 11 and 12, Novak et al. teaches bonding together intermediate sheets (502, 503). It would have been obvious to provide a layer of glue between the two extreme sheets (52, 54) of Gurich and intermediate layer (53) in order to attach the layers together to form an integral cylinder head seal.

Art Unit: 2856

Regarding claim 13, Novak et al. teaches that the extreme layers (404) are formed from conventional gasket material (column 5, lines 18-24), and further teaches metal as a conventional gasket material (column 4, lines 22-25). Accordingly, it would have been obvious in view of Novak to make the extreme sheets of Gurich of metal.

Regarding claim 15, Novak et al. teaches a high temperature resin (column 4, line 53).

Regarding claim 16, Gurich discloses a protective element (11) in Fig. 1.

Regarding claim 17, note Figs. 5-7 of Gurich.

Regarding claim 18, Gurich discloses a piezoelectric element (60) in Fig. 6.

Regarding claim 19, Gurich discloses a cylinder head gasket.

Regarding claim 20, Novak et al. teaches providing a temperature sensitive device. See column 4, lines 56-63, of Novak.

Regarding claim 21, Gurich discloses use for detecting engine knock.

Regarding claim 22, misfire and knocking are combustion characteristics in at least one combustion chamber of an engine.

Regarding claim 23, it is known in the art to use a measuring device to determine engine knock location in the combustion chamber of an internal-combustion engine, as noted by applicant on page 12, lines 13-14, of the specification.

Regarding claims 25-27, the outer layers (52, 62, 72) of the seal of Gurich extend to the chamber, in the same sense that the outer layers (32, 34) in Fig. 4 of applicant extend to the chamber (31), i.e., notwithstanding the presence of the flange (11) in Fig. 1 of Gurich or the protective element (68) in Fig. 4 of applicant.

7. Claim 24 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim.
8. Applicant's arguments filed October 5, 2007 have been considered but are moot in view of the new ground(s) of rejection.
9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

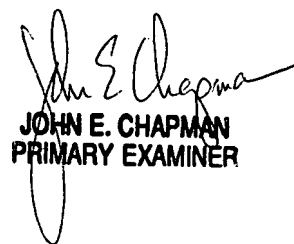
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John E. Chapman whose telephone number is 571-272-2191. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron

Art Unit: 2856

Williams can be reached on 571-272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



JOHN E. CHAPMAN
PRIMARY EXAMINER